

WE CLAIM AS OUR INVENTION:

1. A method for positioning a level of a slice of an X-ray exposure to be generated by irradiating a subject in an examination direction, said method comprising the steps of:

obtaining a reference image of an exterior of a subject with a camera along a line of sight transverse to said examination direction;

indicating a selected slice level with a marking in said reference image; and

using said marking in said reference image to set a slice level when irradiating the subject with X-rays with an X-ray examination device.

2. A method as claimed in claim 1 wherein said marking has marking position data within said reference image associated therewith and wherein said camera has camera position data with reference to said X-ray examination device associated therewith, and wherein the step of setting said slice level comprises using said marking position data and said camera position data to set said slice level.

3. A method as claimed in claim 2 comprising subjecting said reference image to image processing to detect fixed points therein having position data associated therewith that are known with reference to the X-ray examination device, and setting said slice level using said marking position data relative to said fixed points in said reference image and using the position data of the fixed points with reference to the X-ray examination device.

4. A method as claimed in claim 3 comprising fixing said marking within said reference image and moving said camera to vary said reference image.

5. A method as claimed in claim 4 comprising moving said camera parallel to said examination direction to vary said reference image.

6. A method as claimed in claim 1 comprising manually designating said slice level marking in said reference image.

7. A method as claimed in claim 1 comprising the steps of:
storing imaging parameters in a memory for a plurality of different types of images obtainable using said X-ray examination device;
subjecting said reference image-to-image processing to determine a subject parameter of said examination subject;
setting a slice level for one of the types of images, selected by an operator of the X-ray examination device, using said subject parameter and the imaging parameters stored in the memory for the selected type of image;
visually displaying said reference image with said marking therein corresponding to the slice level that has been set; and
allowing an operator of the X-ray examination device to approve the slice level designated by the marking in the displayed reference image and to fix the slice level for irradiating the subject with X-rays with said X-ray examination device to obtain the selected type of image.

8. A slice level positioning device for positioning a level of a slice of an X-ray exposure to be generated by irradiating a subject in an examination direction, comprising:

a camera for obtaining a reference image of an exterior of a subject along a line of sight transverse to said examination direction;

an indication unit indicating a selected slice level with a marking in said reference image; and

a processor for, using said marking in said reference image, setting a slice level when irradiating the subject with X-rays with an X-ray examination device.

9. A slice level positioning device as claimed in claim 8 wherein said marking has marking position data within said reference image associated therewith and wherein said camera has camera position data with reference to said X-ray examination device associated therewith, and wherein said processor sets said slice level comprises using said marking position data and said camera position data to set said slice level.

10. A slice level positioning device as claimed in claim 9 comprising an image processor for subjecting said reference image to image processing to detect fixed points therein having position data associated therewith that are known with reference to the X-ray examination device, and wherein said processor sets said slice level using said marking position data relative to said fixed points in said reference image and using the position data of the fixed points with reference to the X-ray examination device.

11. A slice level positioning device as claimed in claim 10 wherein said indication unit fixes said marking within said reference image, and comprising a camera height positioner for moving said camera to vary said reference image.

12. A slice level positioning device as claimed in claim 11 wherein said camera height positioner moves said camera parallel to said examination direction to vary said reference image.

13. A slice level positioning device as claimed in claim 11 wherein said slice height positioner is remotely controllable.

14. A slice level positioning device as claimed in claim 8 comprising an input unit allowing manual designation of said slice level marking in said reference image.

15. A slice level positioning device as claimed in claim 8 comprising:
a memory for storing imaging parameters for a plurality of different types of images obtainable using said X-ray examination device;
an image processor for subjecting said reference image to image processing to determine a subject parameter of the examination subject;
said processor setting a slice level for a selected one of the types of images using said subject parameter and the imaging parameters stored in the memory for the selected type of image;
a display for visually displaying said reference image with said marking therein corresponding to the slice level that has been set; and
an input unit allowing an operator of the X-ray examination device to approve the slice level designated by the marking in the displayed reference image and to fix the slice level for irradiating the subject with X-rays with said X-ray examination device to obtain the selected type of image.

16. An X-ray examination device allowing positioning of a level of a slice of an X-ray exposure comprising:

an X-ray source for irradiating a subject in an examination direction to produce an X-ray exposure;

a camera for obtaining a reference image of an exterior of the a subject along a line of sight transverse to said examination direction;

an indication unit for indicating a selected slice level with a marking in said reference image; and

a processor for using said marking in said reference image setting a slice level when irradiating the subject with X-rays with the X-ray source.